



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/138,926	08/24/1998	FRANK C. CESARE	D-6362	4707

6449 7590 02/09/2006

ROTHWELL, FIGG, ERNST & MANBECK, P.C.
1425 K STREET, N.W.
SUITE 800
WASHINGTON, DC 20005

EXAMINER

MIGGINS, MICHAEL C

ART UNIT	PAPER NUMBER
----------	--------------

1772

DATE MAILED: 02/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/138,926	CESARE	
	Examiner	Art Unit	
	Michael C. Miggins	1772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-28,30 and 31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14-28,30 and 31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. In view of the Appeal Brief filed on 11/23/05, PROSECUTION IS HEREBY REOPENED. New grounds for rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1772

3. Claims 14-22, 25-28 and 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakahama et al. (US 5242971) in view of Allen et al. (US 4960829).

Nakahama discloses a composition (column 3, lines 60-62) which comprises a low molecular weight polymer formed from monomers comprising ethylene, $\text{CH}_2=\text{CHQ}$ wherein Q is $\text{C}_1\text{-C}_8$ alkyl (EPDM), and optionally a non-conjugated polyene, wherein ethylene is present in an amount of from 67 to about 75% by weight, the polyene is present in an amount from 0-30% by weight (column 5, lines 1-39, column 4, lines 24-28 since iodine is the measure of nonconjugated content), and $\text{CH}_2=\text{CHQ}$ is present in an amount of from about 15% to about 40% by weight (column 5, lines 42-53), wherein said polymer is a solid at room temperature (since the mixture containing the low molecular weight polymer is kneaded, column 11, lines 15-64), with the proviso that the sum of the components within said polymer totals 100% by weight and a high molecular weight polymer (column 5, lines 42-53) (applies to instant claim 14).

Nakahama discloses wherein the non-conjugated polyene is selected from the group consisting of 5-ethylidene-2-norbornene, 1, 4-hexadiene and dicyclopentadiene (column 5, lines 1-8 and column 4, lines 8-14), wherein Q is methyl (column 5, lines 1-39), wherein the polyene is present in an amount of from about 1 to about 20% by weight (column 5, lines 1-39, column 4, lines 24-28 since iodine is the measure of nonconjugated content), wherein the high molecular weight polymer is selected from the group consisting of natural rubber and synthetic rubber, wherein the synthetic rubber is selected from the group consisting of ethylene/alphaolefin/nonconjugated polyene (EPDM) rubbers, styrene/butadiene rubbers, acrylonitrile/butadiene rubbers,

Art Unit: 1772

polychloroprene and sulfur modified polychloroprene, and polybutadiene rubbers (column 4, lines 1-68), a molded article (column 9, lines 30-38 and column 10, lines 8-17), wherein the article is selected from the group consisting of a v-belt, a timing belt, a conveyor belt, a drive belt, a hose, a seal, a diaphragm, a cable and a roll cover (column 9, lines 30-38 and column 10, lines 8-17), and wherein ethylene is present in an amount of from about 71 to about 75% by weight in the polymer (column 5, lines 28-33) (applies to instant claims 15-17, 25-28 and 30).

Nakahama fails to disclose a composition comprising a polymer formed from monomers comprising ethylene, $\text{CH}_2=\text{CHQ}$ wherein Q is $\text{C}_1\text{-C}_8$ alkyl, a nonconjugated polyene, wherein said polymer has a molecular weight of from about 4,000 to about 30,000, a reinforcing agent, wherein the polyene component is present in an amount of from about 3 to about 15% by weight, wherein the $\text{CH}_2=\text{CHQ}$ component is present in amount of from about 22 to about 30% by weight, wherein said polymer has a molecular weight of from about 5,000 to about 10,000 and wherein ethylene is present in said polymer in an amount of from 67 to 71%.

Allen discloses a composition comprising a polymer formed from monomers comprising ethylene, $\text{CH}_2=\text{CHQ}$ wherein Q is $\text{C}_1\text{-C}_8$ alkyl, a nonconjugated polyene (column 2, lines 16-24), wherein said polymer has a molecular weight of from about 4,000 to about 30,000 (column 2, line 21, column 4, lines 1-12), a reinforcing agent (column 5, lines 43-50), wherein the polyene component is present in an amount of from about 3 to about 15% by weight (column 2, lines 60-65), wherein the $\text{CH}_2=\text{CHQ}$ component is present in amount of from about 22 to about 30% by weight (column 3,

Art Unit: 1772

lines 51-58), wherein said polymer has a molecular weight of from about 5,000 to about 10,000 (column 4, lines 1-12) and wherein ethylene is present in said polymer in an amount of from 67 to 71% (column 3, lines 51-58) in a rubber composition comprising a high molecular weight polymer and a low molecular weight polymer comprising $\text{CH}_2=\text{CHQ}$ wherein Q is $\text{C}_1\text{-C}_8$ alkyl for the purpose of providing improved tensile strength, ozone resistance (applies to instant claims 14, 18-21 and 31).

Therefore it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided a composition comprising a polymer formed from monomers comprising ethylene, $\text{CH}_2=\text{CHQ}$ wherein Q is $\text{C}_1\text{-C}_8$ alkyl, a nonconjugated polyene, wherein said polymer has a molecular weight of from about 4,000 to about 30,000, a reinforcing agent, wherein the polyene component is present in an amount of from about 3 to about 15% by weight, wherein the $\text{CH}_2=\text{CHQ}$ component is present in amount of from about 22 to about 30% by weight, wherein said polymer has a molecular weight of from about 5,000 to about 10,000 and wherein ethylene is present in said polymer in an amount of from 67 to 71% in the composition of Nakahama in order to provide improved tensile strength, ozone resistance and as taught or suggested by Allen.

With regard to claim 22, the polymer which yields about 10 mm or less in a needle penetration test is provided upon the combination of Nakahama and Allen since the combination provides applicant's composition as discussed above. Furthermore, providing a polymer which yields about 10 mm or less in a needle penetration test is obvious since finding the optimum workable range or value is well within the level of one

Art Unit: 1772

of ordinary skill in the art (MPEP 2114). It would have been obvious to one of ordinary skill in the art to have provided a polymer which yields about 10 mm or less in a needle penetration test in order to provide improved tensile strength and/or durability.

4. Claims 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakahama et al. (US 5242971) in view of Allen et al. (US 4960829), as applied to claims 14-22, 25-28 and 30-31 above, and further in view of Gozdiff (US 4705161).

Allen discloses reinforcing agents as described above.

Neither Nakahama nor Allen disclose wherein the reinforcing agent is selected from the group consisting of aramid fibers, cotton, polyesters, fiberglass, and mixtures thereof, wherein the reinforcing agent comprises aramid fibers.

Gozdiff discloses aramid fiber reinforcing agents in EPDM belts (column 1, lines 56-68, column 2, lines 19-26) for the purpose of providing improved heat resistance (applies to instant claims 23-24).

Nakahama and Godzif are combinable because both are drawn to belts containing EPDM.

Therefore it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided wherein the reinforcing agent is selected from the group consisting of aramid fibers, cotton, polyesters, fiberglass, and mixtures thereof, wherein the reinforcing agent comprises aramid fibers in the composition of Nakahama in order to provide improved heat resistance as taught or suggested by Gozdiff.

Double Patenting

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 14-22, 25-28 and 30-31 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-16 of U.S. Patent No. 4,960,829 in view of *Allen et al.* (US 4960829) and *Nakahama et al.* (US 5242971).

Claims 1-16 of U.S. Patent No. 4,960,829 recites applicant's invention substantially as claimed. However, claims 1-16 of U.S. Patent No. 4,960,829 fails to disclose wherein the polymer is a solid at room temperature and a reinforcing agent.

Nakahama discloses a composition (column 3, lines 60-62) which comprises a low molecular weight polymer formed from monomers comprising ethylene, $\text{CH}_2=\text{CHQ}$

Art Unit: 1772

wherein Q is C₁-C₈ alkyl (EPDM), and optionally a non-conjugated polyene, wherein ethylene is present in an amount of from 67 to about 75% by weight, the polyene is present in an amount from 0-30% by weight (column 5, lines 1-39, column 4, lines 24-28 since iodine is the measure of nonconjugated content), and CH₂=CHQ is present in an amount of from about 15% to about 40% by weight (column 5, lines 42-53), wherein said polymer is a solid at room temperature (since the mixture containing the low molecular weight polymer is kneaded, column 11, lines 15-64), with the proviso that the sum of the components within said polymer totals 100% by weight and a high molecular weight polymer (column 5, lines 42-53) for the purpose of providing excellent weather resistance, ozone resistance and thermal aging resistance.

Therefore it would have been obvious to one of ordinary skill in the art to have provided wherein the polymer is a solid at room temperature in the composition of claims 1-16 of U.S. Patent No. 4,960,829 in order to provide excellent weather resistance, ozone resistance and thermal aging resistance.

Allen discloses a reinforcing agent (column 5, lines 43-50) in order to provide improved reinforcement to the composition.

Therefore it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided a reinforcing agent in the composition of claims 1-16 of U.S. Patent No. 4,960,829 in order to provide improved reinforcement to the composition as taught or suggested by Allen.

With regard to claim 22, the polymer which yields about 10 mm or less in a needle penetration test is provided upon the combination of the references above since

Art Unit: 1772

the combination provides applicant's composition as discussed above. Furthermore, providing a polymer which yields about 10 mm or less in a needle penetration test is obvious since finding the optimum workable range or value is well within the level of one of ordinary skill in the art (MPEP 2114). It would have been obvious to one of ordinary skill in the art to have provided a polymer which yields about 10 mm or less in a needle penetration test in order to provide improved tensile strength and/or durability.

7. Claims 23-24 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-16 of U.S. Patent No. 4,960,829 in view of Allen et al. (US 4960829) and Nakahama et al. (US 5242971), as applied to claims 14-22, 25-28 and 30-31 above, and further in view of Gozdiff (US 4705161).

Allen discloses reinforcing agents as described above.

None of the references disclose wherein the reinforcing agent is selected from the group consisting of aramid fibers, cotton, polyesters, fiberglass, and mixtures thereof, wherein the reinforcing agent comprises aramid fibers.

Gozdiff discloses aramid fiber reinforcing agents in EPDM belts (column 1, lines 56-68, column 2, lines 19-26) for the purpose of providing improved heat resistance (applies to instant claims 23-24).

Therefore it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided wherein the reinforcing agent is selected from the group consisting of aramid fibers, cotton, polyesters, fiberglass, and mixtures thereof, wherein the reinforcing agent comprises aramid fibers in the

Art Unit: 1772

composition of Nakahama in order to provide improved heat resistance as taught or suggested by Gozdif.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Miggins whose telephone number is 571-272-1494. The examiner can normally be reached on 1:00-10:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Y. Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MCM
February 6, 2006

Michael C. Miggins
Primary Examiner
Art Unit 1772

